

ABSTRACT OF THE DISCLOSURE

A three-dimensional image grabber allowing for the simultaneous projection of multiple phase-shifted patterns onto an object, and the simultaneous acquisition of multiple images of these phase-shifted patterns is described herein. The grabber comprises a pattern projecting assembly and an image acquisition assembly. The pattern projecting assembly includes, for example, a spectral splitter or a plurality of light sources, grids and projectors for simultaneous projection of a plurality of patterns under different monochromatic lights. The image acquisition assembly includes, for example, a CCD camera sensitive to the different monochromatic lights, or a plurality of CCD cameras with filters to gather lights incoming for the object simultaneously illuminated by the plurality of phase-shifted patterns. A method and a system for measuring the relief of an object, using the above-mentioned process, is also disclosed.

"Express Mail" mailing label number EL815538570US
Date of Deposit March 22, 2004
I hereby certify that this paper or fee is being deposited
with the United States Postal Service "Express Mail Post
Office to Addressee" service under 37 CFR 1.10 on the
date indicated above and is addressed to: Commissioner
of Patents and Trademarks, Washington, D.C. 20231
Brian Nicholas Brant Miles
(Printed name)
Brant Miles
(Signature)